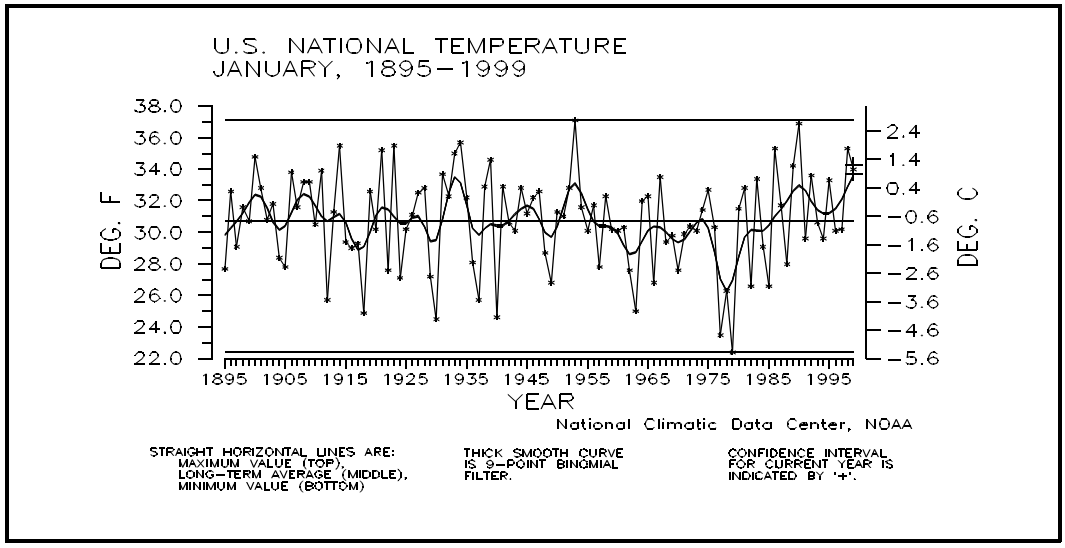
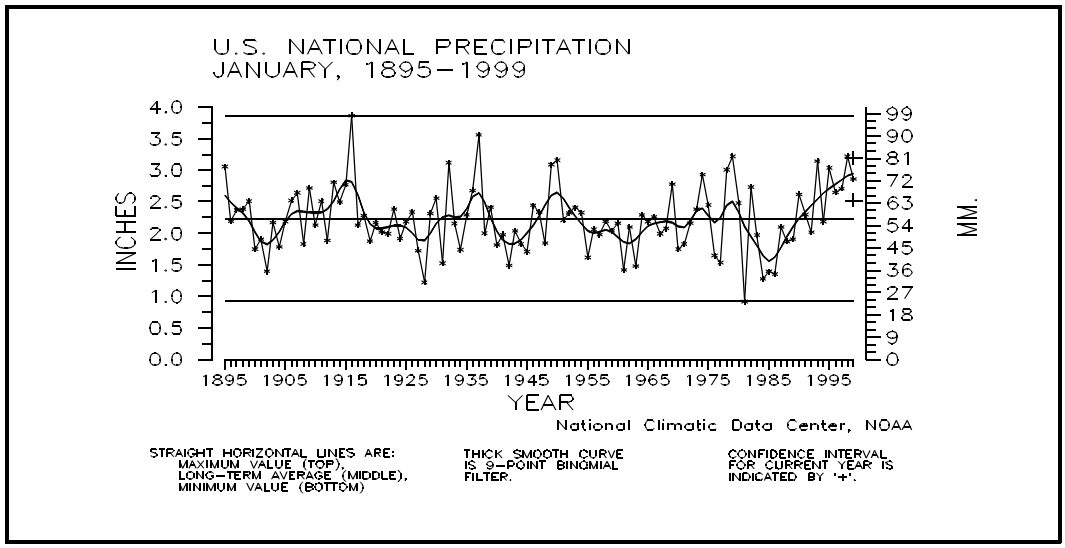
**JANUARY 1999** **HISTORICAL CLIMATOLOGY SERIES 4-7**
Volume 11 Number 1

# CLIMATE VARIATIONS BULLETIN




noaa NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION / NATIONAL ENVIRONMENTAL SATELLITE, DATA, AND INFORMATION SERVICE / NATIONAL CLIMATIC DATA CENTER ASHEVILLE, N.C.

This CLIMATE VARIATIONS BULLETIN (CVB) is a preliminary report that puts current monthly climate anomalies into historical perspective using climate databases archived at the National Climatic Data Center (NCDC). It is issued on a monthly basis. Supplemental sections are included which address seasonal and annual perspectives, when appropriate.

Current data are based on preliminary reports from River Forecast Center stations and First and Second Order airport stations obtained from the National Weather Service (NWS) Climate Prediction Center. THE CURRENT DATA SHOULD BE USED WITH CAUTION. These preliminary data are useful for estimating how current anomalies compare to the historical record, however the actual values and rankings for the current year will change as the final data arrive at NCDC and are processed.

The following NCDC datasets are used for the historical data: the climate division drought database (TD-9640), and the hurricane datasets (TD-9636 and TD-9697). It should be noted that the climate division drought database consists of monthly data for 344 climate divisions in the contiguous United States. These divisional values are calculated from the 6000+ station Cooperative Observer network.

If you are a climate researcher and would like to order copies of the historical datasets used to make graphs of the type in this report, call 828-271-4994 or fax a letter to 828-271-4876 or mail a letter to the address given below, ATTN: Research User Services.

All other questions or requests for data should be made by calling 828-271-4800 or sending a fax to 828-271-4876 or by writing to:

National Climatic Data Center, NOAA
Federal Building
151 Patton Avenue, Room 120
Asheville, NC 28801-5001

If you use any of the information from this CVB, please identify "National Climatic Data Center, NOAA" as the source.

# UNITED STATES JANUARY CLIMATE IN HISTORICAL PERSPECTIVE

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**TABLE 1.** PRECIPITATION AND TEMPERATURE RANKS, BASED ON THE PERIOD 1895-1999. 1 = DRIEST/COLDEST, 105 = WETTEST/WARMEST FOR JANUARY 1999, 104 = WETTEST/WARMEST FOR DEC 1998-JAN 1999, 104 = WETTEST/WARMEST FOR AUG 1998-JAN 1999, 104 = WETTEST/WARMEST FOR FEB 1998-JAN 1999.

| REGION | JAN 1999 | DEC 1998-JAN 1999 | AUG 1998-JAN 1999 | FEB 1998-JAN 1999 |
|---|---|---|---|---|
| PRECIPITATION: | | | | |
| NORTHEAST | 103 | 72 | 16 | 79 |
| EAST NORTH CENTRAL | 87 | 55 | 58 | 79 |
| CENTRAL | 97 | 91 | 50 | 98 |
| SOUTHEAST | 90 | 74 | 61 | 76 |
| WEST NORTH CENTRAL | 74 | 75 | 100 | 98 |
| SOUTH | 90 | 74 | 98 | 51 |
| SOUTHWEST | 19 | 11 | 46 | 73 |
| NORTHWEST | 68 | 82 | 75 | 92 |
| WEST | 51 | 27 | 49 | 102 |
| NATIONAL | 93 | 72 | 78 | 97 |
| TEMPERATURE: | | | | |
| NORTHEAST | 61 | 89 | 96 | 102 |
| EAST NORTH CENTRAL | 54 | 78 | 102 | 103 |
| CENTRAL | 65 | 79 | 100 | 101 |
| SOUTHEAST | 84 | 90 | 99 | 101 |
| WEST NORTH CENTRAL | 76 | 82 | 104 | 100 |
| SOUTH | 91 | 89 | 101 | 103 |
| SOUTHWEST | 96 | 89 | 97 | 88 |
| NORTHWEST | 94 | 76 | 101 | 100 |
| WEST | 88 | 65 | 81 | 32 |
| NATIONAL | 93 | 97 | 104 | 104 |

**TABLE 2**. EXTREMES, 1961-90 NORMALS, AND 1999 VALUES FOR JANUARY. IT SHOULD BE NOTED THAT THE 1999 VALUES WILL CHANGE WHEN THE FINAL DATA ARE PROCESSED.

PRECIPITATION (INCHES)

| REGION | DRIEST VALUE | DRIEST YEAR | WETTEST VALUE | WETTEST YEAR | NORMAL PCPN | 1999 PCPN |
|---|---|---|---|---|---|---|
| NORTHEAST | .87 | 1981 | 7.22 | 1979 | 2.84 | 5.27 |
| EAST NORTH CENTRAL | .32 | 1961 | 2.47 | 1916 | 1.11 | 1.62 |
| CENTRAL | .72 | 1981 | 9.61 | 1937 | 2.52 | 5.02 |
| SOUTHEAST | .92 | 1927 | 7.73 | 1936 | 4.13 | 5.48 |
| WEST NORTH CENTRAL | .16 | 1961 | 1.25 | 1949 | .61 | .74 |
| SOUTH | .53 | 1914 | 5.34 | 1932 | 2.09 | 3.19 |
| SOUTHWEST | .20 | 1924 | 3.00 | 1916 | .82 | .44 |
| NORTHWEST | .43 | 1985 | 7.81 | 1953 | 3.80 | 4.16 |
| WEST | .28 | 1984 | 10.67 | 1916 | 2.58 | 2.62 |
| NATIONAL | .92 | 1981 | 3.87 | 1916 | 2.07 | 2.86* |

* PRELIMINARY VALUE, CONFIDENCE INTERVAL + OR - .34 INCHES

TEMPERATURE (DEGREES F)

| REGION | COLDEST VALUE | COLDEST YEAR | WARMEST VALUE | WARMEST YEAR | NORMAL TEMP | 1999 TEMP |
|---|---|---|---|---|---|---|
| NORTHEAST | 12.3 | 1918 | 33.8 | 1932 | 21.1 | 23.2 |
| EAST NORTH CENTRAL | -1.3 | 1912 | 25.4 | 1990 | 13.0 | 14.2 |
| CENTRAL | 15.1 | 1977 | 40.0 | 1933 | 28.2 | 32.0 |
| SOUTHEAST | 35.0 | 1977 | 57.7 | 1950 | 44.1 | 49.3 |
| WEST NORTH CENTRAL | .1 | 1937 | 26.6 | 1986 | 16.5 | 20.8 |
| SOUTH | 31.1 | 1940 | 50.7 | 1923 | 40.7 | 46.1 |
| SOUTHWEST | 20.8 | 1937 | 38.2 | 1986 | 31.2 | 36.1 |
| NORTHWEST | 13.4 | 1949 | 37.4 | 1953 | 28.5 | 32.8 |
| WEST | 24.4 | 1937 | 45.5 | 1986 | 38.4 | 41.1 |
| NATIONAL | 22.4 | 1979 | 37.1 | 1953 | 29.9 | 34.0* |

* PRELIMINARY VALUE, CONFIDENCE INTERVAL + OR - .3 DEG. F.

**TABLE 3.**

STATISTICS FOR SELECTED RIVER BASINS: PRECIPITATION RANKING FOR OCT-JAN 1998-99, WHERE RANK OF 1 = DRIEST, 104 = WETTEST, BASED ON THE PERIOD 1895 TO 1999, AREAL PERCENT OF THE BASIN EXPERIENCING SEVERE OR EXTREME LONG-TERM (PALMER) DROUGHT, AND AREAL PERCENT OF THE BASIN EXPERIENCING SEVERE OR EXTREME LONG-TERM (PALMER) WET CONDITIONS, AS OF JANUARY 1999. RIVER BASIN REGIONS AS DEFINED BY THE U.S. WATER RESOURCES COUNCIL.

| RIVER BASIN | PRECIPITATION RANK | % AREA DRY | % AREA WET |
|---|---|---|---|
| MISSOURI BASIN | 104 | .0% | 41.7% |
| PACIFIC NORTHWEST BASIN | 90 | .0% | 28.0% |
| CALIFORNIA RIVER BASIN | 46 | .0% | 48.8% |
| GREAT BASIN | 45 | .0% | 74.4% |
| UPPER COLORADO BASIN | 60 | .0% | .0% |
| LOWER COLORADO BASIN | 29 | .0% | .0% |
| RIO GRANDE BASIN | 65 | .0% | 3.9% |
| ARKANSAS-WHITE-RED BASIN | 99 | .0% | 3.7% |
| TEXAS GULF COAST BASIN | 92 | 19.4% | 25.3% |
| SOURIS-RED-RAINY BASIN | 104 | .0% | 48.1% |
| UPPER MISSISSIPPI BASIN | 88 | 4.8% | 6.8% |
| LOWER MISSISSIPPI BASIN | 68 | 6.3% | 3.6% |
| GREAT LAKES BASIN | 39 | 36.0% | .0% |
| OHIO RIVER BASIN | 60 | .4% | .0% |
| TENNESSEE RIVER BASIN | 77 | .0% | .0% |
| NEW ENGLAND BASIN | 59 | .0% | 7.7% |
| MID-ATLANTIC BASIN | 34 | 26.1% | 5.3% |
| SOUTH ATLANTIC-GULF BASIN | 45 | 2.9% | .0% |

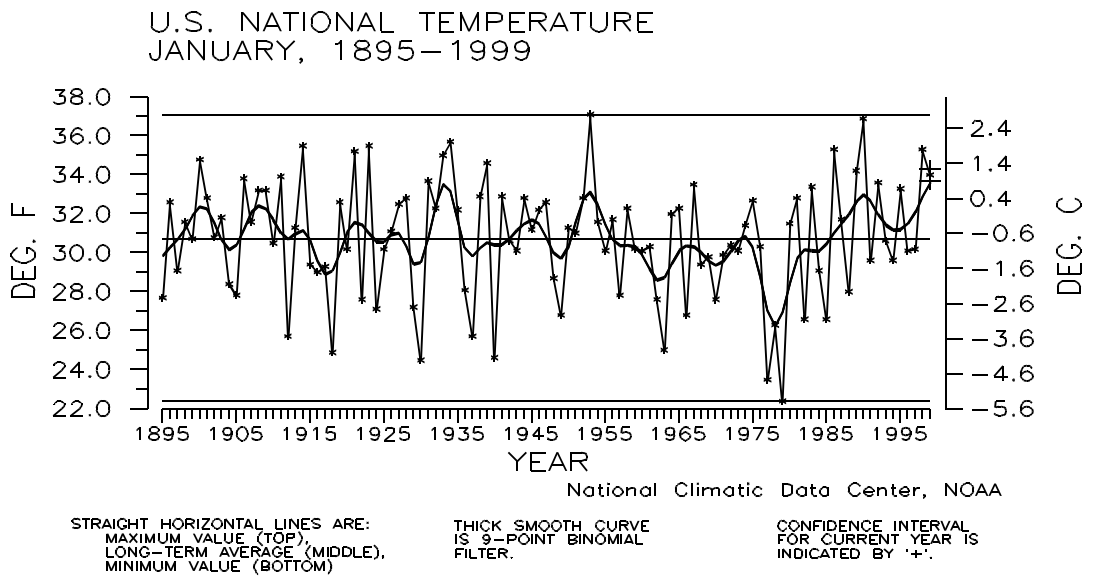


Figure 1: Preliminary data for January 1999 indicate that temperature averaged across the contiguous United States was above the long-term mean ranking as the 13th warmest January since 1895. Nearly 16% of the country was much warmer than normal while nearly zero percent of the country was much cooler than normal.

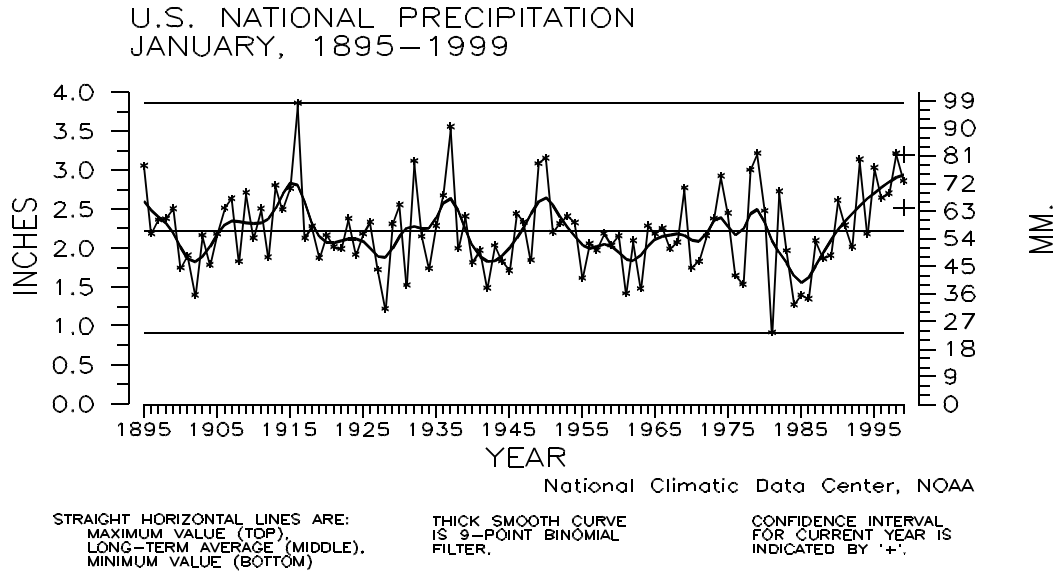


Figure 2: January 1999 was the 13th wettest such month since 1895. Nearly 18% of the country experienced much wetter than normal conditions while about six percent of the country was much drier than normal.

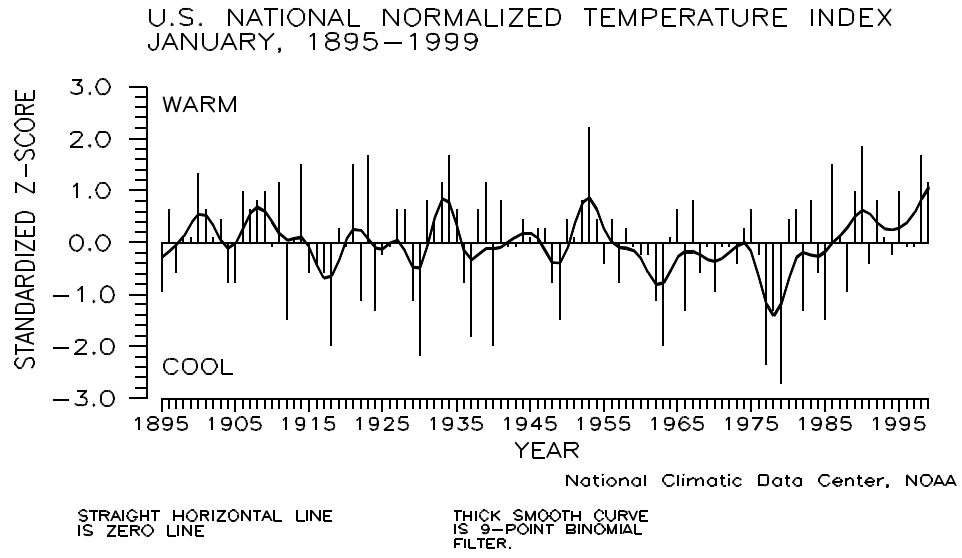


Figure 3: The preliminary national standardized temperature index ranked January 1999 as the 10th warmest such month on record.

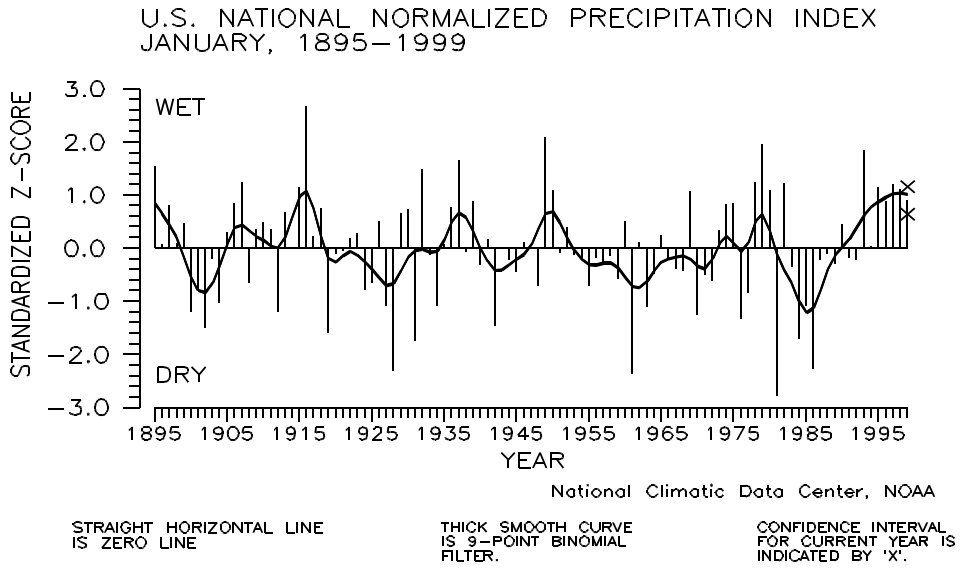


Figure 4: The preliminary national standardized precipitation index ranked January 1999 as the 18th wettest such month on record. This standardized z-score is estimated to be accurate to within 0.256 index units.

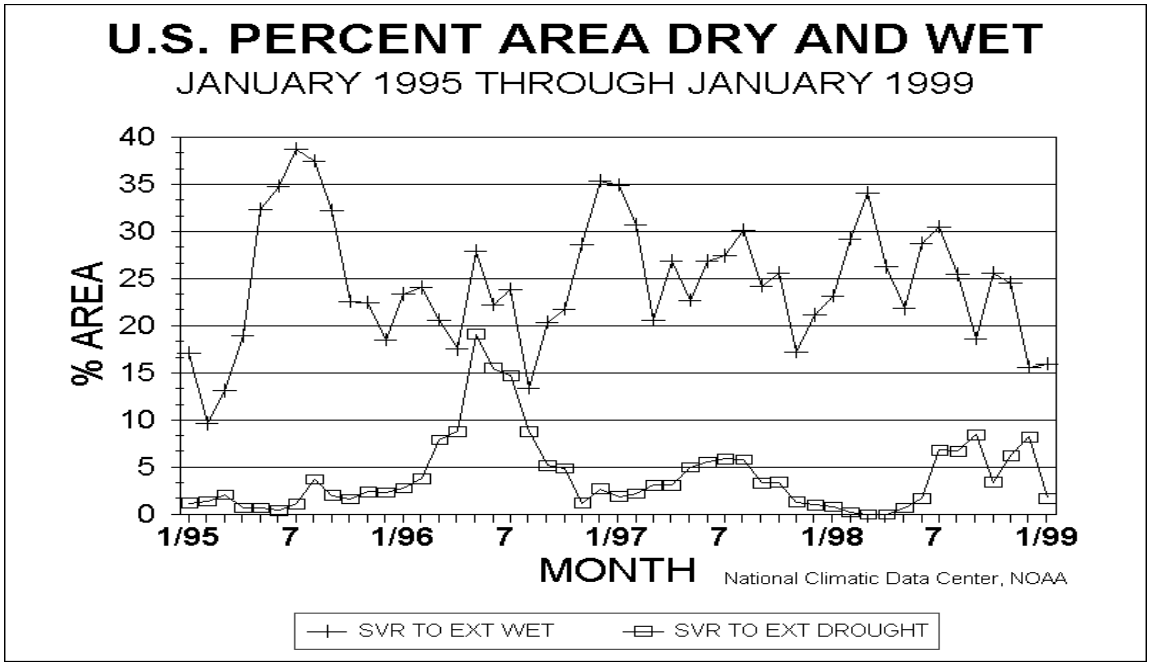


Figure 5: Long-term drought coverage (as measured by the Palmer Drought Index) showed a significant drop over December 1998, with January 1999 having about two percent of the country in severe to extreme drought. The percent area of the country experiencing severe to extreme wetness remained nearly unchanged at about 16%. The core dry areas included northern Florida, the mid-Atlantic States, and the Great Lakes. The core wet areas included portions of the Mississippi Valley, northern and central Great Plains, central Rockies, and Far West.

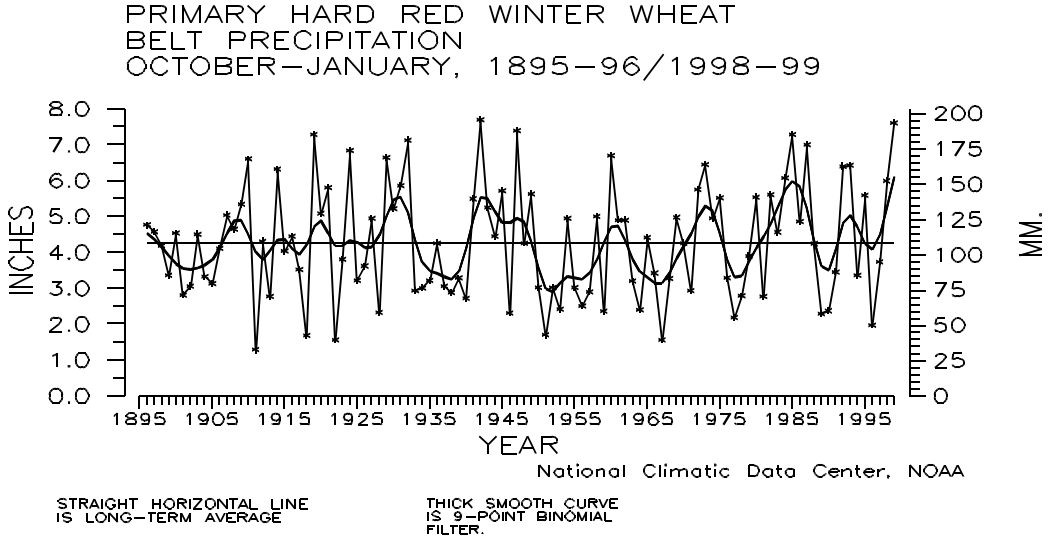


Figure 6: Preliminary data indicate that precipitation averaged across the Primary Hard Red Winter Wheat agricultural belt was much above the long-term mean for the four-month growing season to date and ranked as the second wettest such period since 1895-96. This area includes the panhandle of Texas, the western half of Oklahoma, all except extreme southeastern Kansas, northeastern Colorado, and southern and western Nebraska.

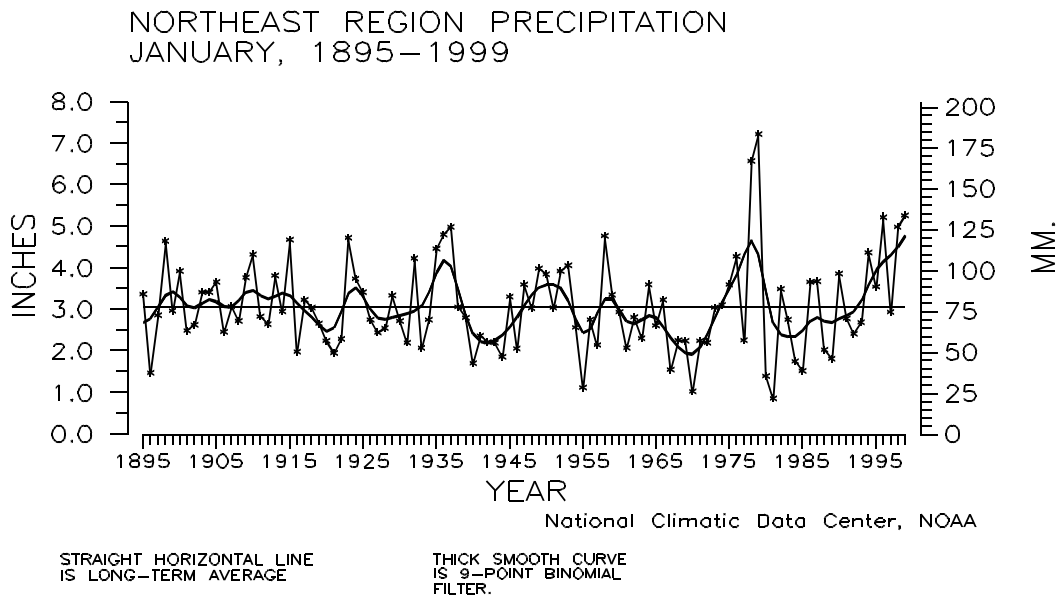


Figure 7: Preliminary data ranked January 1999 as the third wettest such period on record for the Northeast Region. The Northeast Region includes each state from Pennsylvania and Maryland, northeastward. Precipitation for five of the last six such months has been above the long-term mean

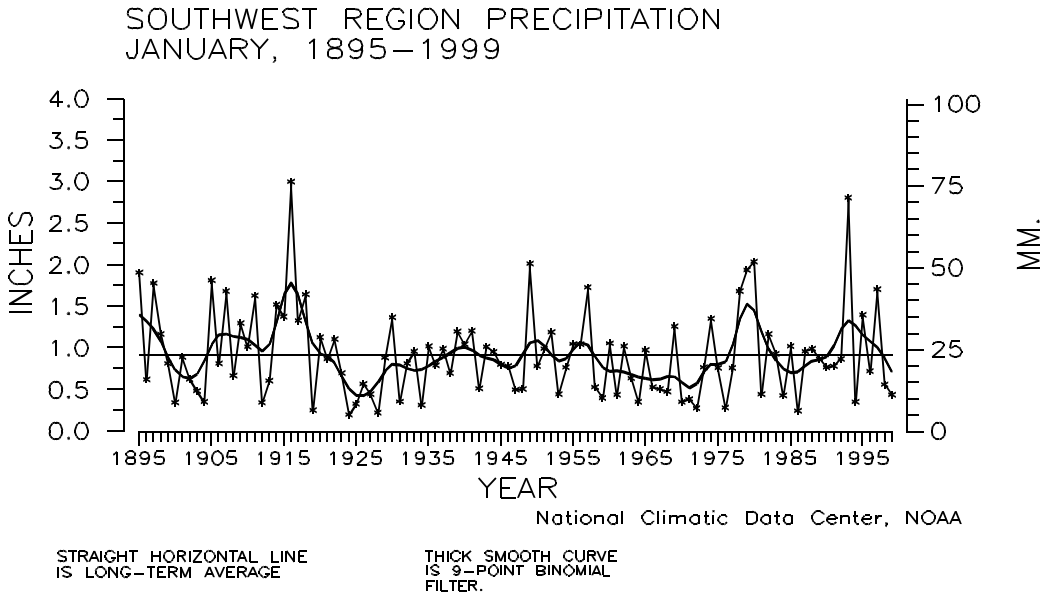


Figure 8: Preliminary data ranked January 1999 as the 19th driest such month on record for the Southwest Region. The Southwest Region includes Arizona, Colorado, New Mexico, and Utah.

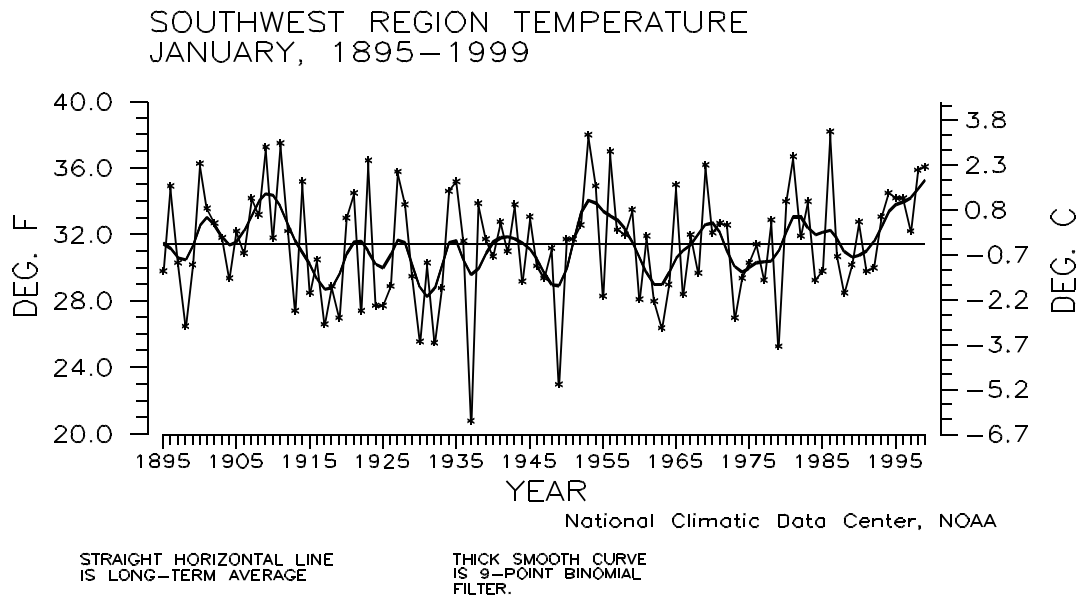


Figure 9: Preliminary data ranked January 1999 as the tenth warmest such period on record for the Southwest Region. The last seven such months have been above- to much above the long-term mean.

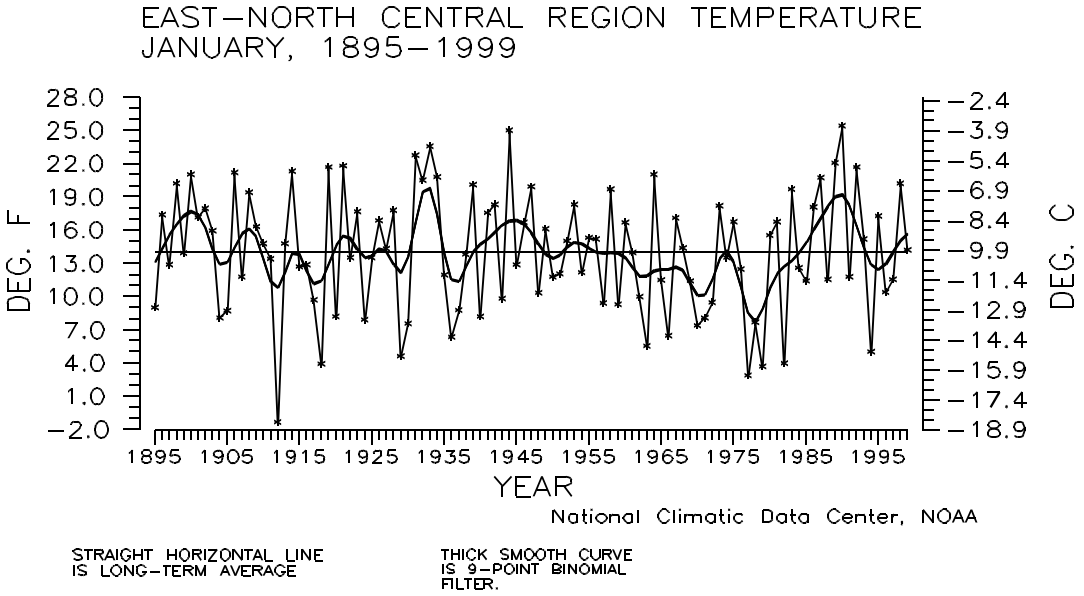


Figure 10: Preliminary data ranked January 1999 as the 52nd warmest such month on record for the East-North Central Region. The East-North Central Region includes Iowa, Michigan, Minnesota, and Wisconsin.

# JANUARY 1999 STATEWIDE RANKS

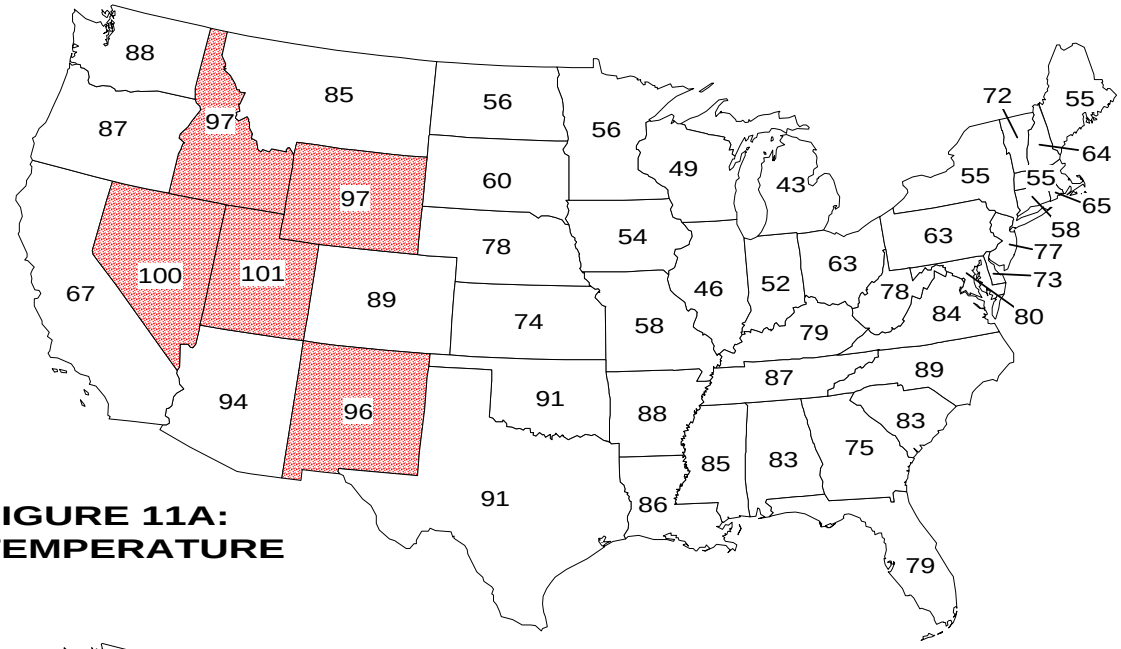


**FIGURE 11A: TEMPERATURE**

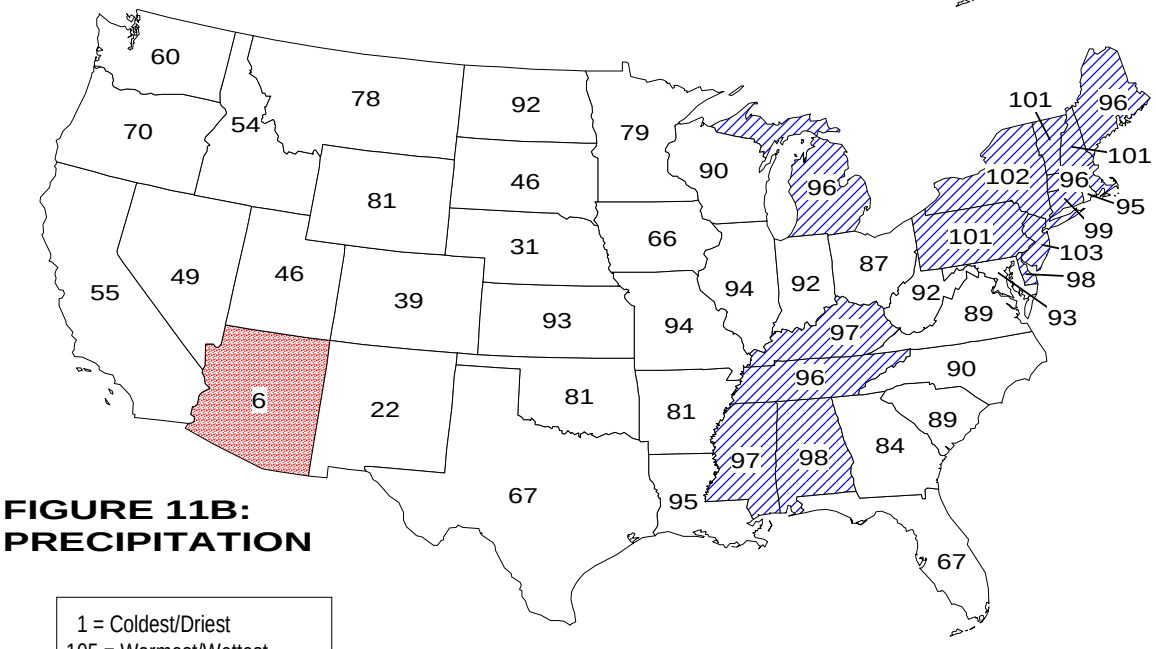


**FIGURE 11B: PRECIPITATION**

1 = Coldest/Driest
105 = Warmest/Wettest

National Climatic Data Center, NOAA

Temperature and Precipitation Ranks for the contiguous United States. Each state is ranked based on its data from 1895-1999. States having a rank of top ten coldest or driest (rank 1-10) or top ten warmest or wettest (rank 96-105) are shaded.

# DEC 1998 - JAN 1999 STATEWIDE RANKS

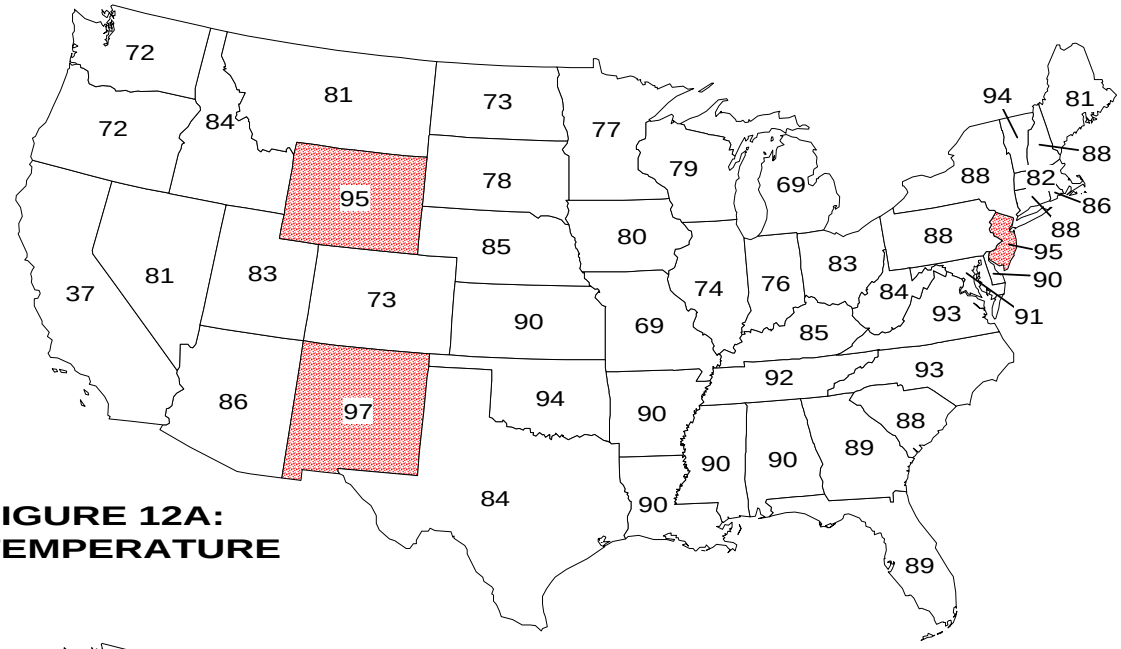


**FIGURE 12A: TEMPERATURE**

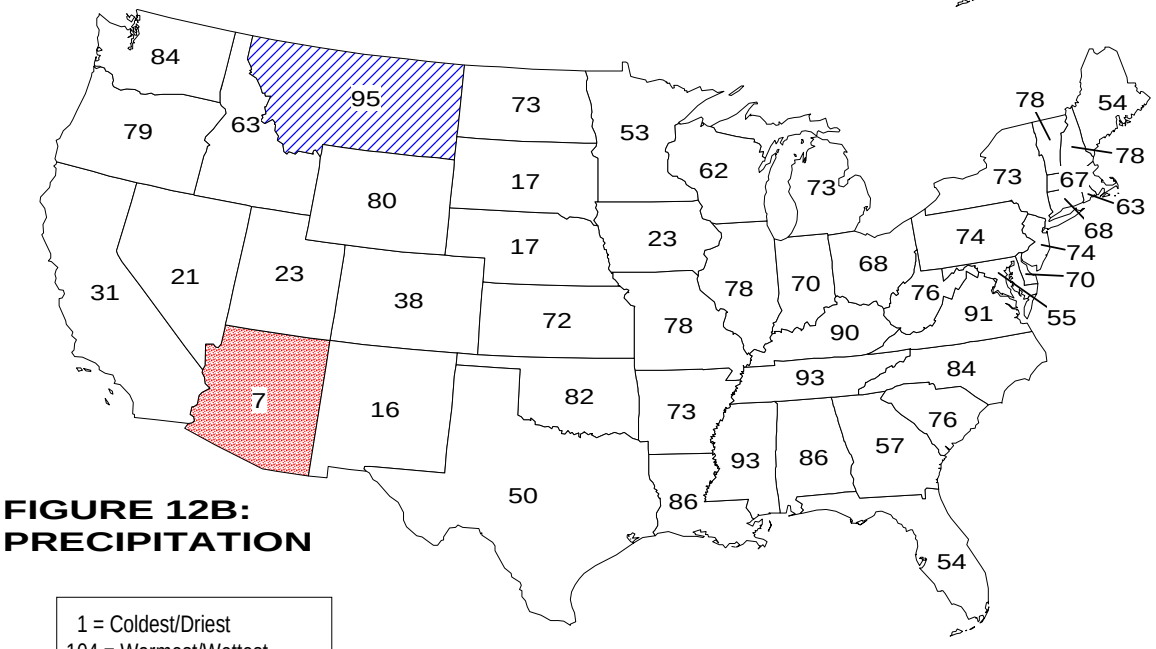


**FIGURE 12B: PRECIPITATION**

1 = Coldest/Driest
104 = Warmest/Wettest

National Climatic Data Center, NOAA

Temperature and Precipitation Ranks for the contiguous United States. Each state is ranked based on its data from 1895-1999. States having a rank of top ten coldest or driest (rank 1-10) or top ten warmest or wettest (rank 95-104) are shaded.

**Figure 11A** shows, in illustrative map form, the January 1999 temperature rankings for the 48 contiguous states. Five states were within the top ten warm portion of the historical distribution including the fifth warmest January on record for Utah and the sixth warmest January since 1895 for Nevada. An additional 30 states ranked within the top ten warm portion of the historical distribution. No state ranked within the cool-third of the distribution.

January 1999 state ranks for precipitation are shown in **Figure 11B**. Fourteen states ranked within the top ten wet portion of the distribution while 20 others ranked within the wet third portion of the distribution. One state also ranked within the top ten dry portion of the historical distribution while two others ranked within the dry third. ***It should be noted that these January state precipitation ranks are preliminary and should be used with considerable caution due to the high variability of precipitation on a small space and time scale.***

Temperature and precipitation ranks for the two-month period, December 1998-January 1999, are shown in **Figures 12A and 12B**. Every state except three (of the contiguous 48 States) ranked within the warm-third of the historical distribution including three states which ranked within the top ten warm portion. The two-month period was the eighth warmest December-January period on record for New Mexico and the tenth warmest such two-month period since 1895 for New Jersey and Wyoming. No state was within the cool-third portion of the distribution. Only one state (Montana) had their tenth wettest or wetter such December-January period while 26 others ranked within the wet third. Only one state (AZ) ranked within the top ten dry portion of the historical distribution while seven others ranked within the dry-third portion of the distribution for the two-month period.

> ***It should be emphasized that all of the temperature and precipitation ranks on these maps and in Table 1 are based on preliminary data. The ranks will change when the final data are processed***.

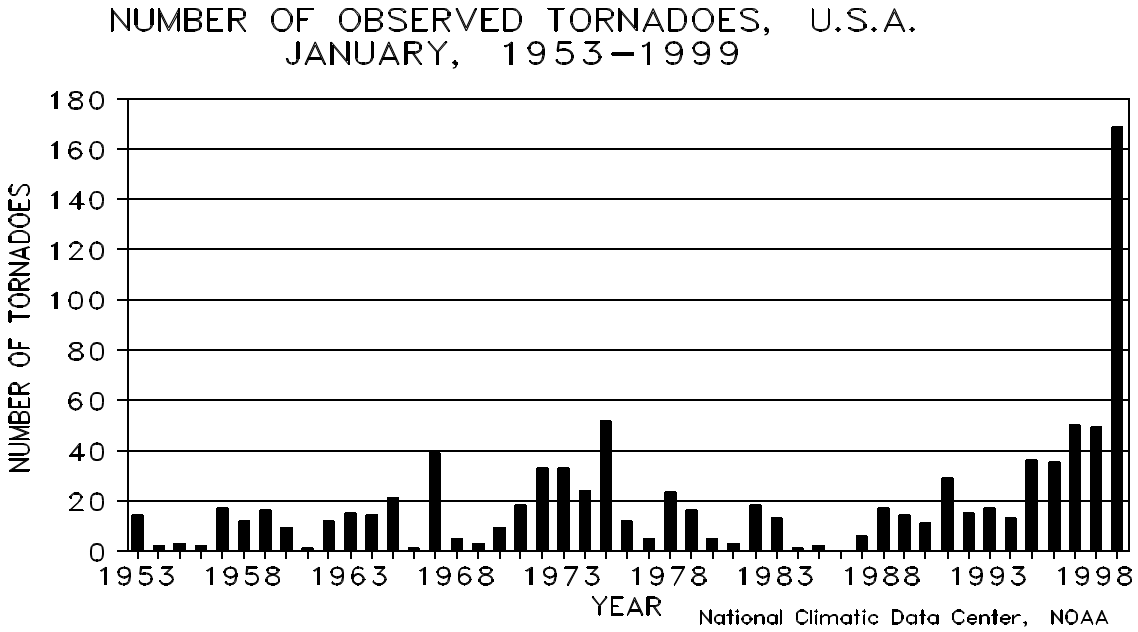


Figure 13: The preliminary count of 169 tornadoes for January 1999 set a U.S. January tornado record. The January 1999 value was ten times the 1953-1999 average January tornado count of 16 and three times the previous January record of 52 tornadoes which was set back in 1975.